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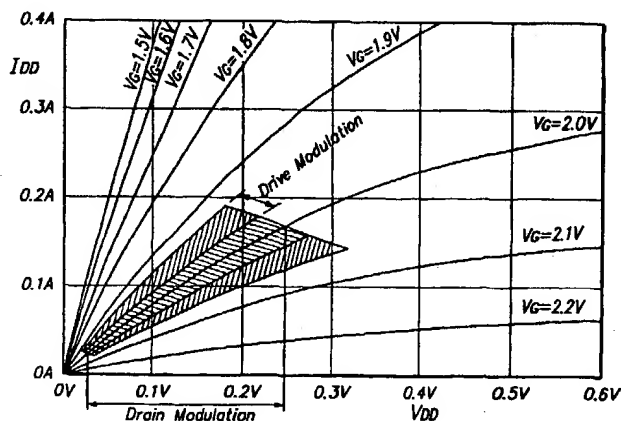
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(54) Title: COMMUNICATIONS SIGNAL AMPLIFIERS HAVING INDEPENDENT POWER CONTROL AND AMPLITUDE MODULATION



(57) Abstract: The present invention, generally speaking, provides methods and apparatus for producing an amplitude modulated communications signal, in which a constant-envelope carrier signal is modified in response to a power control signal (204) to produce a modified constant-envelope carrier signal. The modified constant-envelope carrier signal is amplified in response to an amplitude modulation signal (207) to produce a communications signal having amplitude modulation and having an average output power proportional to a signal level of the modified constant-envelope carrier signal. This manner of operation allows wide dynamic range of average output power to be achieved. Because amplitude modulation is applied after amplitude varying circuitry (303) used to produce the modified constant-envelope carrier signal, the amplitude modulation is unaffected by possible non-linearities of such circuitry. In accordance with another aspect of the invention, operation in the foregoing manner at comparatively low average output power levels is combined with switchmode operation at comparatively high average output power levels, enabling high overall efficiency to be achieved. Hence, the disclosed modulator and amplifier combination, in addition to supporting very low power signals, also supports high power signals.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H03G H03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y	page 4, line 3-18; figures 2,9 page 11, line 27 -page 12, line 14	7-10,17, 18, 23-25, 28-47
Y	US 6 069 525 A (CAMARILLO RICHARD J ET AL) 30 May 2000 (2000-05-30) column 3, line 40 -column 4, line 63; figure 1 -/-	7-10,17, 18, 23-25, 28-47

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 251 331 A (OSMANI RASHID M ET AL) 5 October 1993 (1993-10-05) column 4, line 4-65; figure 2	1-47
A	US 6 043 707 A (BUDNIK BRIAN JOSEPH) 28 March 2000 (2000-03-28) cited in the application column 6, line 3 -column 8, line 9; figures 8,9	1-47

INTERNATIONAL SEARCH REPORT

Information on patent family members

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